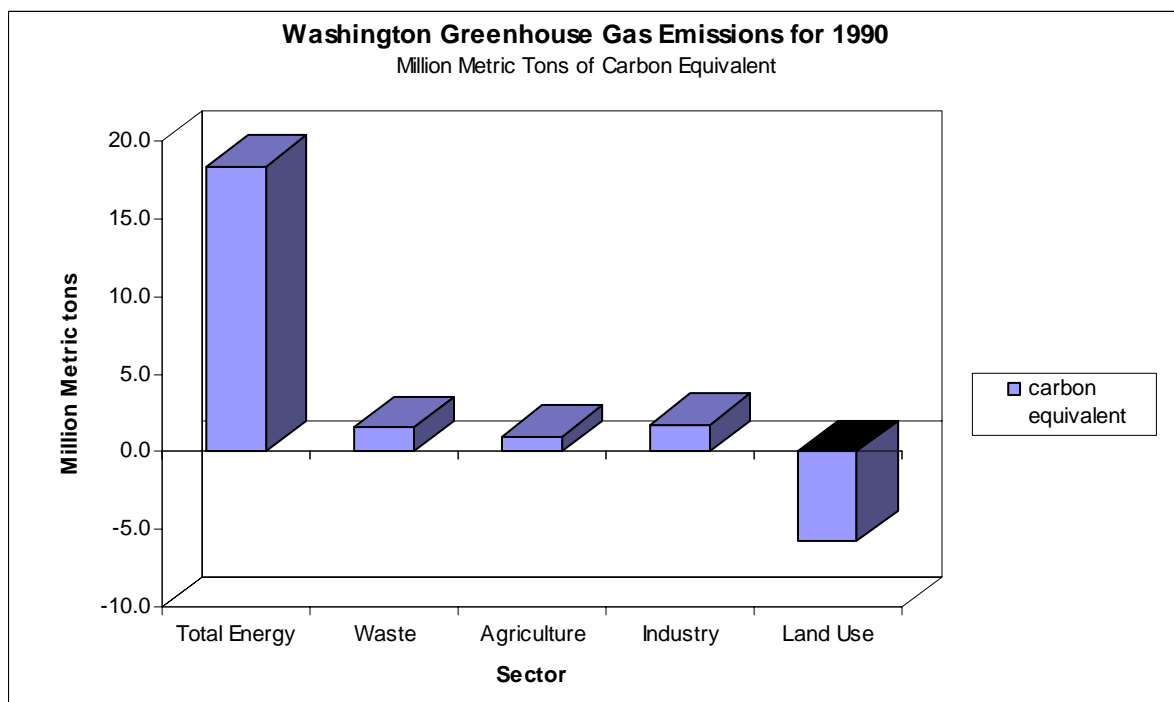


WASHINGTON GREENHOUSE GAS EMISSIONS AND SINKS INVENTORY: SUMMARY



The report “*Greenhouse Gas Emissions Inventory for Washington State, 1990*” provides a detailed inventory of greenhouse gas emissions and sinks for Washington in 1990. Emissions were estimated using methods from EPA’s 1992 guidance document ***State Workbook: Methodologies for Estimating Greenhouse Gas Emissions***. In 1990, Washington emitted 17.0 million metric tons of carbon equivalent (MMTCE). Washington estimated emissions of 2.4 MMTCE from biomass fuels and from other sources not included in the workbook. Emissions from these sources are not included in the reported total or the table below.¹

The principal greenhouse gases were carbon dioxide, comprising 47.2 million metric tons (12.9 MMTCE), and methane with 0.4 million metric tons (2.4 MMTCE). Other emissions included 800 metric tons of perfluorocarbons (1.5 MMTCE), and 0.003 million metric tons of nitrous oxide (0.2 MMTCE).

¹ Note that the state of the art emission inventory method has advanced since Washington completed its inventory; therefore, we have made the following adjustments to Washington’s emission estimates. First, we excluded emission estimates for sources not covered by the most recent inventory guidance (<http://www.epa.gov/ttnchie1/eiip/techrep.htm#green>). These emissions include carbon dioxide from decomposition in landfills and from methane flaring at landfills, and methane from wetland drainage. Second, we used updated carbon coefficients for some fuel types. Third, we used updated values for global warming potentials.

Washington Greenhouse Gas Emissions for 1990

BY SECTOR	CO2 (MMTCE)	Methane (MMTCE)	Nitrous Oxide (MMTCE)	HFCs, PFCs, and SF6 (MMTCE)	Total GHG Emissions (MMTCE)
Energy - Residential	1.0	*	*	*	1.0
Energy - Commercial	1.0	*	*	*	1.0
Energy - Industrial	2.4	*	*	*	2.4
Energy - Transport	11.7	*	*	*	11.7
Energy - Utility	2.3	*	*	*	2.3
Energy - Exported Electricity	*	*	*	*	*
Energy - Other	*	0.1	*	*	0.1
Total Energy	18.4	0.1	*	*	18.4
Waste	*	1.6	*	*	1.6
Agriculture	*	0.8	0.2	*	1.0
Industry	0.3	*	*	1.5	1.8
Land Use	-5.8	*	*	*	-5.8
Total	12.9	2.4	0.2	1.5	17.0

All emissions are reported in million metric tons of carbon equivalent (MMTCE).

An asterisk (*) indicates that emissions of the gas from this sector were zero, insignificant, or not reported.

Emissions due to coal mining and extraction of natural gas and oil are included in the energy – other figures, and emissions from biofuel combustion are excluded.

The major source of carbon dioxide emissions was fossil fuel combustion (99%), with minor emissions from lime manufacture, aluminum production, and cement production. Carbon dioxide sinks (i.e., increases in forest carbon stocks) offset about 25% of the total carbon dioxide emissions. Contributors to methane emissions were landfills (66%), domesticated animals (19%), manure management (11%), coal mining (2%), and burning of agricultural waste (1%). Nitrous oxide emissions were accounted for by fertilizer use (97%), and the burning of agricultural waste (3%). All perfluorocarbons were emitted from aluminum production.

Washington's emissions in 1990 were 3.5 MTCE per capita, compared to 1990 U.S. emissions of 6.4 MTCE per capita.